

Claims

1. A high power loudspeaker having double symmetric magnet-circuits, double voice coils and double dampers comprises a diaphragm holder, a diaphragm, an upper and a lower dampers, an annular steel magnet, a core, voice coils, an upper and a lower plate, the faces of the upper and lower ends of the annular steel magnet are fixed to the upper and lower plates respectively, the upper and lower plates have a hole in their center respectively, the core is inserted into the holes of the upper and lower plates and into the hollow section of the annular steel magnet, with an upper annular magnet gap formed between the periphery of the upper section of the core and the upper plate as well as an annular lower magnet gap formed between the core and the lower plate, the voice coil that wraps around the core comprises a cylindrical bobbin and an upper and a lower coil, with the upper end of the bobbin fixed to the diaphragm and the upper and lower coil wound around the bobbin, being situated within the upper and lower magnet gap respectively; the periphery of the diaphragm is fixed to the edge of the diaphragm holder; the inner edge of the upper damper is fixed to the outer wall of the upper section of the bobbin, and its outer edge is fixed to the diaphragm holder; the periphery of the lower end of the bobbin is fixed to the lower damper, characterized in that the core is a steel magnet, the polarities of its upper and lower ends being opposite to those of the upper and lower ends of the annular steel magnet.

2. The loudspeaker according to claim 1, characterized in that the core is supported by a core holder which includes a central cylindrical protrusion which projects into the lower section of the voice coil to be fixed to the lower end of the core and an annular collar around.

3. The loudspeaker according to claim 2, characterized in that the outer edge of the lower damper fixed to a lower diaphragm holder that comprises an annular upper end face which is fixed to the lower plate and a horn-shaped side which lower edge is fixed to the annular collar of the core holder.

4. The loudspeaker according to claim 1, characterized in that the core comprises an upper magnet-conducting block, a core steel magnet and a lower magnet-conducting block, these three are stuck together in turn, with the upper magnet-conducting block facing the upper plate to form an upper magnet gap, the lower magnet-conducting block facing the lower plate to form the lower magnet gap, and the diameter of the core steel magnet being a little smaller than that of the upper and lower magnet-conducting blocks.

5. The loudspeaker according to claim 2, characterized in that the core comprises an upper magnet-conducting block, a core steel magnet and a lower magnet-conducting block, these three are stuck together in turn, with the upper magnet-conducting block facing the upper plate to form an upper magnet gap, the lower magnet-conducting block facing the lower plate to form the lower magnet gap, and the diameter of the core steel magnet being a little smaller than that of the upper and lower magnet-conducting blocks.

6. The loudspeaker according to claim 1, characterized in that the diaphragm holder comprises an upper chassis and a lower chassis, the upper and lower chassis are fixed together by screws.

7. The loudspeaker according to claim 1, characterized in that the annular steel magnet comprises a plurality of magnetic blocks arranged annularly.

8. The loudspeaker according to claim 1, characterized in that the upper damper and lower damper are provided symmetrically at the two ends of the voice coil.

9. A high power loudspeaker having double symmetric magnet-circuits, double voice coils and double dampers comprises a diaphragm holder, a diaphragm, a damper, an annular steel magnet, a core, voice coils, an upper and a lower plate, the faces of the upper and lower ends of the annular steel magnet are fixed to the upper and lower plates respectively, the upper and lower plates have a hole in their center respectively, the core is inserted into the holes of the upper and lower plates and into the hollow section of the annular steel magnet, with an upper annular magnet gap formed between the periphery of the upper section of the core and the upper plate as well as an annular lower magnet gap formed between the core and the lower plate, the voice coil that wraps around the core comprises a cylindrical bobbin and an upper and a lower coil, with the upper end of the bobbin fixed to the diaphragm and the upper and lower coil wound around the bobbin, being situated within the upper and lower magnet gap respectively; the periphery of the diaphragm is fixed to the edge of the diaphragm holder; characterized in that the core is a steel magnet, the polarities of its upper and lower ends being opposite to those of the upper and lower ends of the annular steel magnet and the damper is fixed to the periphery of the lower end of the bobbin.

10. The loudspeaker according to claim 9, characterized in that the core is supported by a core holder which includes a central cylindrical protrusion which projects into the lower section of the voice coil to be fixed to the lower end of the core and an annular collar around.

11. The loudspeaker according to claim 10, characterized in that the outer edge of

the damper fixed to a lower diaphragm holder that comprises an annular upper end face which is fixed to the lower plate and a horn-shaped side which lower edge is fixed to the annular collar of the core holder.

12. The loudspeaker according to claim 9, characterized in that the core comprises an upper magnet-conducting block, a core steel magnet and a lower magnet-conducting block, these three are stuck together in turn, with the upper magnet-conducting block facing the upper plate to form an upper magnet gap, the lower magnet-conducting block facing the lower plate to form the lower magnet gap, and the diameter of the core steel magnet being a little smaller than that of the upper and lower magnet-conducting blocks.

13. The loudspeaker according to claim 10, characterized in that the core comprises an upper magnet-conducting block, a core steel magnet and a lower magnet-conducting block, these three are stuck together in turn, with the upper magnet-conducting block facing the upper plate to form an upper magnet gap, the lower magnet-conducting block facing the lower plate to form the lower magnet gap, and the diameter of the core steel magnet being a little smaller than that of the upper and lower magnet-conducting blocks.

14. The loudspeaker according to claim 9, characterized in that the diaphragm holder comprises an upper chassis and a lower chassis, the upper and lower chassis are fixed together by screws.

15. The loudspeaker according to claim 9, characterized in that the annular steel magnet comprises a plurality of magnetic blocks arranged annularly.